

AMENDMENTS TO THE DRAWINGS

Please replace FIGS. 3A, 4A, 5, 7A and 7B with the attached Replacement Sheets.

In FIG. 3A, reference character 35 is deleted.

In FIG. 4A, reference character 45 is deleted.

In FIG. 5, reference character 55 is deleted.

In FIG. 7A, reference characters 601, 603, 604, 704 and 705 are deleted, and indication of reference character 602 is changed.

In FIG. 7B, reference characters 704, 705, 801, 802 and 803 are deleted.

Attachment: Replacement Sheets

REMARKS

Reconsideration and allowance of this application are respectfully requested.

I. Summary of Non-Final Office Action

The outstanding office action issued in response to Applicant's a request for continued examination (RCE) under 37 CFR 1.114 filed April 6, 2007.

Claims 1-5, 7-13 and 15-20 are pending in this application.

Figs. 1A, 1B, 3A, 4A, 5, 6B, 7A and 7B are objected.

Claims 1-5 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fukumoto** (US 6,380,923; hereinafter "**Fukumoto**") in view of **Ishikawa** et al. (US 6,261,247; hereinafter "**Ishikawa**"). **Fukumoto** is a new ground of rejection.

Claims 7-10 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fukumoto** as modified by **Ishikawa**, and further in view of **Grimes** (US 4,414,537; hereinafter "**Grimes**"). **Grimes** is a new ground of rejection.

Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fukumoto** as modified by **Ishikawa**, and further in view of **Kaplan** (US 2004/0169638; hereinafter "**Kaplan**"). **Kaplan** is a new ground of rejection.

II. Analysis of Objections to Drawings

Applicant labeled Figs. 1A and 1B as "RELATED ART" in this Amendment.

Applicant also deleted the following reference characters from the corresponding drawing: 35 in Fig. 3A; 45 in Fig. 4A; 55 in Fig. 5; 601, 603, 704 and 705 in Fig. 7A; and 704, 705, 801, 802 and 803 in Fig. 7B.

In Fig. 7A, Applicant denoted the coil unit as reference character 602.

As to reference characters 64 and 65 in Fig. 6B, and reference character 604, Applicant amends corresponding paragraphs 38 and 39 in which the elements indicated by these reference characters are described.

In amending the above drawings and specification, no new matter is added. Applicant respectfully requests withdrawal of objections.

III. Analysis of the Claim Rejection under 35 U.S.C. 103(a)

[Claims 1 and 11]

In rejecting claim 1, the Examiner alleges that **Fukumoto**, a new reference, discloses all the claim elements except the use of a wireless power signal to operate the claimed finger-motion detection unit and finger-motion signal transmitting unit. The Examiner alleges that the use of a wireless power signal is taught by **Ishikawa** while **Fukumoto** discloses only battery-operated finger motion detection.

Applicant respectfully traverses the rejection. Applicant's arguments are directed to the wireless power signal allegedly taught by **Ishikawa**.

One aspect of the present application is that, in order to detect finger motions, a wireless power signal originated from a receiving unit is used to operate a detecting unit and a transmitting unit which do not need to have a separate power supply. This aspect is particularly emphasized in the Background of the Invention (paragraph 4) by stating that the present application addresses the problem of the conventional battery-operated (detecting) sensor.

In view of this background of the invention, **Fukumoto** discloses only a conventional battery-operated finger motion detection apparatus, and this characteristic of **Fukumoto** is admitted by the Examiner. Thus, one issue of the patentability of the claimed apparatus and

method lies in whether there is any teaching, suggestion or motivation (TSM) to combine **Fukumoto** and **Ishikawa** if **Ishikawa** teaches the claimed wireless power signal delivery to the detecting unit and transmitting unit at all.

Assuming, arguendo, however that **Ishikawa**'s RF power signal delivery to two transponders (P and S) in Fig. 1 corresponds to the claimed power signal delivery to a detecting unit and a transmitting unit, there does not exist any TSM in **Fukumoto** or a related art to incorporate **Ishikawa**'s teaching to produce the claimed invention.

First, **Fukumoto** is directed to a portable information device represented by a virtual keyboard as the present application is, while **Ishikawa** is directed to anatomic position sensing system which is used as a surgical instrument. There is no TSM in **Fukumoto** to replace the battery operated sensors with wireless-powered sensors when the reference reaches only to an immediately accessible input device compared to a wearable glove-type input device. Further, the Examiner has not shown any reference to address using wireless-powered sensors in this particular virtual keyboard art to which **Fukumoto** is directed. It may be alleged that, even though **Fukumoto** does not show any TSM in its disclosure itself, one ordinarily skilled in the art with **Fukumoto** at hand may incorporate into the reference an element which this reference lacks. However, **Ishikawa**, which is directed to anatomic position detection in surgery, is too remote an art to apply TSM to the virtual keyboard input device to make up for the **Fukumoto** deficiency.

Secondly, **Ishikawa** teaches only the use of wireless power signal to power the sensors, but does not teach that such power signal is transferred from a receiving unit *configured to be attached to a user's hand* as claimed. Assuming arguendo that wireless power signal

transmission itself is not an innovative aspect pertaining only to the present application, one aspect of the present application is that, in order to provide a small, convenient and inexpensive finger-motion detecting apparatus, the wireless power is originated from a receiving unit configured to be attached to a user's hand together with the finger-motion signal transmitting unit. By contrast, since **Ishikawa** is directed only to detecting relative positions of anatomic structure of a human body using wireless-powered transponders (P and S), the reference does not teach attaching the receiving unit to a user's hand as claimed. In addition, the transponders (P and S) are used only to detect their relative positions (static), but not used for detecting any motion (dynamic). In this respect, any motivation or desirability for one ordinarily skilled in the art to look to **Ishikawa** to find a further improvement to **Fukumoto** is further decreased.

As briefly noted above referring to paragraph 4 of the specification, the present application is provided not only to address the problems caused by the inconvenient wearable input device but also the problems caused by battery-powered sensors. **Fukumoto** only provides the battery-powered sensors improved from a wearable (glove-shaped) input device (col. 2, lines 3-12) without any TSM to incorporate wireless-powered sensors in a related art. The Examiner's incorporation of wireless-powered transponders in a remote art is simply based on impermissible hindsight in view of the present application.

For the foregoing reasons, Applicant respectfully submits that the claimed finger-motion detecting apparatus and corresponding method claim 11 would not have been obvious over **Fukumoto** and **Ishikawa**.

[Claims 2, 3, 12, 4, 13]

These claims should be allowable at least due to their dependencies.

[Claim 5]

Even though **Fukumoto** discloses ring-type sensor modules, they do not necessarily correspond to the claimed coil unit to be wound about a finger whose motion is to be detected. Further, the reference does not disclose a separate control unit as claimed which is configured to be positioned on top of the finger in the form of a chip.

Claim 5 should be allowable regardless of its patentability due to dependency.

[Claims 7-10 and 15-18]

These claims should be allowable at least due to their dependencies.

[Claims 19 and 20]

In rejecting these claims, the Examiner relies on **Kaplan** (paragraph 38). The Examiner alleges that the use of an RFID system is taught by **Kaplan**.

However, the use of RFID as paragraph 38 of the reference is not disclosed in the provisional application (60/431,710) from which **Kaplan** claims priority.

Since **Kaplan** was filed December 9, 2003, it postdates the priority date (April 18, 2003) of the present application, and the provisional application of **Kaplan** does not teach the use of RFID as claimed. Therefore, Applicant respectfully submits that **Kaplan** should be removed as a prior art against the claimed invention.

Accordingly, claims 19 and 20 would not have been obvious over the references including **Kaplan**.

IV. New Claims


In this Amendment, Applicant adds new claims 21 and 22. These new claims are supported by paragraphs 28 and 40.

V. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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